PROGRAM facts

U.S. DEPARTMENT OF ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Gas Exploration, Production, and Storage

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STRATEGIC CENTER FOR NATURAL GAS WEBSITE

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METHANE HYDRATES

This technology area focuses on methane hydrates as a potentially enormous natural gas resource. The U.S. Geological Survey (USGS) estimates for in-place gas hydrate resources in the U.S. are two to three orders of magnitude greater than those for conventional natural gas resources. Worldwide the estimated methane hydrate resources are many times greater than those for conventional gas and oil.

Whether production of methane from the hydrates resources can be made feasible is not yet known. Due to the many uncertainties associated with hydrates characterization and production, it will be important for the Federal Government, in cooperation with industry, to take a lead role.

To address the question of the potential contribution of methane hydrates to long-term energy needs in the U.S., it will be necessary to support key research in the identification and assessment of methane hydrates resources (including fundamental properties), and in the development of technologies for their production and utilization (including the economics, safety, and environmental impact of such technologies).

The U.S. Department of Energy (DOE) in collaboration with other Government agencies, universities, National Labs and industry are postured to develop and implement a methane hydrate program which builds upon the existing knowledge base to investigate and to obtain the necessary information to bring this resource into the natural gas reserve base. The Federal role provides for the coordination, integration, and synthesis of research efforts necessary to establish an estimate of gas reserves from hydrates deposits. Particular emphasis will be focused on whether the production from hydrate deposits are technically and economically feasible. Successful completion of these efforts will:

- provide a well-developed data base on resource, production, seafloor stability, safety, and environmental/climate considerations;
- remove technological barriers preventing resource recovery;
- address industry's concerns for safety in such an environment;
- provide guidelines for commercial development of this resource; and
- ensure National energy security.

METHANE HYDRATES

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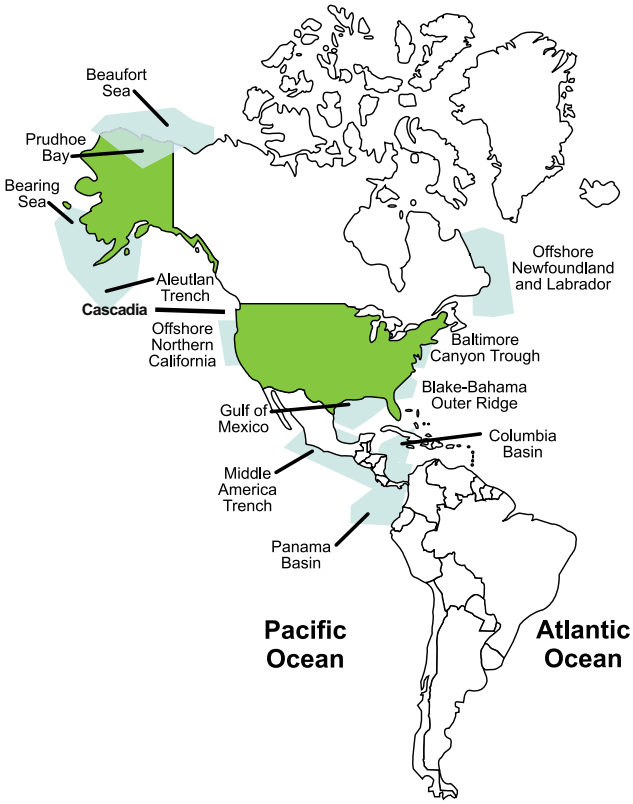
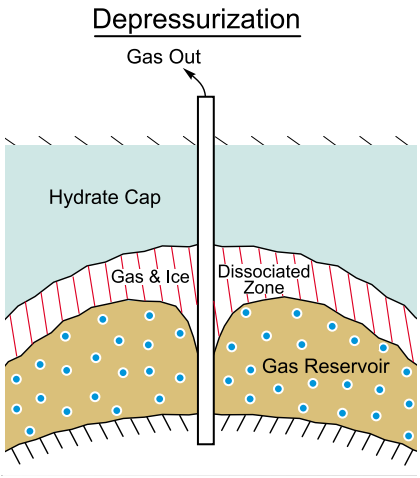
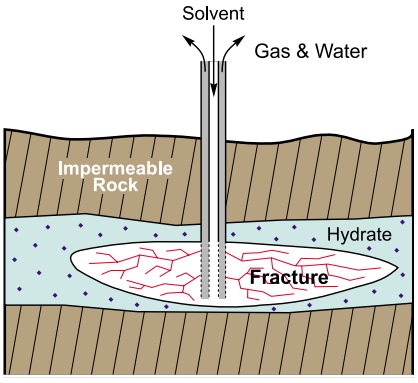
Gas Hydrate Research

Potential Hydrate Bearing Basins



Production Concepts





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